1125-VS-2160   **Blain Anthony Patterson*** (`bapatte3@ncsu.edu`). *Cryptography: Decoding Student Learning.* Cryptography is typically used as a means of keep information safe. However, cryptography can also be used as a powerful teaching tool, as it puts mathematics in a dramatic and realistic setting. It also allows for a natural way to introduce topics such as modular arithmetic, matrix operations, and elementary group theory. The purpose of this presentation is to analyze student work on problems from the domain of cryptography using the SOLO taxonomy via tasked based interviews. Students interviewed were assessed on how they made connections to various areas of mathematics through solving cryptography problems. Analyzing these interviews showed that students have a strong foundation in number theoretic concepts such as divisibility and modular arithmetic. Although cryptography should not be a required course by mathematics majors, concepts from this field could be introduced in courses such as linear algebra, abstract algebra, number theory, and discrete mathematics. (Received September 19, 2016)